WHAT IS CLAIMED IS

1. A gas flow diverter comprising:

a housing having first and second inlets and first and second outlets;

a flow control element having first and second spaced walls each having first and second opposed edges, the flow control element being disposed in the housing and pivotal about an axis between first and second flow control positions,

the first flow control position partitioning the housing so that the first inlet is isolated from the first outlet and the second inlet is isolated from the second outlet and so that a first flow path is established between the first inlet and the second outlet,

the second flow control position partitioning the housing so that the first inlet is isolated from the second outlet and the second inlet is isolated from the second outlet and so that a second flow path is established;

first and second pairs of seal seats against which the first and second opposed edges of the flow control element are operatively engageable when the flow control element assumes the first and second flow control positions respectively; and

an air supply for supplying air under pressure into a space defined between the first and second walls to establish air flows between at least the first and second edges of the flow control element and the first pairs of seats when the flow element is in the first flow control position and between the first and second edges of the flow control element and the second pair of seats when the flow control element is in the second flow control position.

2. A gas flow diverter as set forth in claim 1, wherein a toxic gas free zone is established in the housing between the flow control element in the first flow control position and the second inlet and second outlet.

3. A gas flow diverter as set forth in claim 1, wherein

the first outlet is adapted for connection with a noxious component treatment device and to deliver gas containing a noxious component into the treatment device,

wherein the second inlet is adapted to deliver gas which has passed through the noxious component treatment device into the housing,

wherein the first inlet is adapted to receive gas containing noxious component, and

wherein the second outlet is adapted for exhausting gas to the ambient atmosphere.

4. A gas flow diverter as set forth in claim 1, wherein the air under pressure from the air supply has a pressure which is greater than the pressure in the first inlet port.

5. A gas flow diverter as set forth in claim 1, wherein the first and second spaced walls are offset from one another so that the flow control element has an essentially trapezoidal cross-section.

6. A gas flow diverter as set forth in claim 1, wherein each of the first and second pairs of seal seats have a stepped configuration wherein a first step is lower than a second step.

7. A gas flow diverter as set forth in claim 6, wherein the first and second walls respectively have first and second opposite edges which are respectively provided with flexible seal members and wherein the flexible seal members on each of the leading edges of the first and second walls with respect to the direction of rotation of the flow control member about the axis of rotation, is such as to miss the respective first low steps of the first pair of seal seats and to engage the respective second high steps, and wherein the seal members on the trailing edges of the first and second walls with respect to the direction of rotation is such as to engage the first lower steps.

8. A gas flow diverter as set forth in claim 6, wherein the first and second walls respectively have first and second opposite edges which are respectively provided with flexible seal members and wherein the flexible seal members on each of the leading edges of the first and second walls with respect to the direction of rotation of the flow control member about the axis of rotation, is such as to miss the respective first low steps of the second pair of seal seats and to engage the respective second high steps, and wherein the seal members on the trailing edges of the first and second walls with respect to the direction of rotation is such as to engage the first lower steps.

9. A gas flow diverter as set forth in claim 8, wherein the second pair of seats is arranged so that each seat is rotatable from a first position wherein the first and second steps are directed toward an axis about which the flow control element is rotatable and a second position wherein the first and second steps are directed away from the axis.

10. A gas flow diverter as set forth in claim 1, wherein the air supply comprises:

at least one blower; and

conduits for supplying air to the first and second seats; and

a flow control arrangement which directs the air supplied into the conduits to the first set of seal seats when the air flow control element is in the first flow control position and to the second set of seal seats when the flow control element is in the second flow control position.

11. A gas flow diverter as set forth in claim 10, wherein the air supply includes a heater for heating the air which is supplied thereby.

12. A gas flow diverter comprising:

a flow control element which is rotatable about an axis of rotation between a first flow directing position and a second flow directing position;

first and second sets of seal seats disposed to cooperate with opposed edges of the flow control element when the flow control element is in the first and second flow control directing positions, respectively; and

an air supply which supplies air under pressure to a first interfaces between the first set of seal seats and the flow control element when the flow control element is in the first flow control position and to second interfaces between the second set of seal seats and the flow control element when the flow control element is in the second flow control position.

13. A gas flow diverter as set forth in claim 12,

wherein the flow control element comprises a blade member comprising first and second spaced walls, and

wherein the first and second spaced walls of the blade member are offset with respect to each other and so that the blade member has an essentially trapezoidal cross-section when taken normally to the axis of rotation.

14. A gas flow diverter as set forth in claim 13, wherein the blade has an essentially rectangular cross-section when taken parallel to the axis of rotation.

15. A gas flow diverter as set forth in claim 12, wherein the first and second spaced walls of the blade member respectively have first and second sets of opposed edges which are provided respectively with first and second sets of flexible seal members.

16. A gas flow diverter as set forth in claim 12, wherein the first and second sets of seal seats have a stepped configuration wherein each steps has a high ridge portion and a low ridge portion.

17. A gas flow diverter as set forth in claim 12, wherein the air supply selectively supplies air to the interfaces between the first and second interfaces in response to flow control element flow control positions respectively.

18. A gas flow diverter as set forth in claim 12, wherein

the flow control element is disposed in a housing having a first inlet, a first outlet, a second inlet and a second outlet, wherein the first flow directing position of the flow control element places isolates the first outlet from the first inlet, isolates the second inlet from the second outlet and places the first inlet and the first outlet in communication with one another, wherein the second flow directing position of the flow control element places the first inlet in communication with the first outlet and the second inlet in communication with the second outlet.

19. A gas flow diverter as set forth in claim 12, wherein the air supply supplies air under a pressure which is greater than a gas pressure at the first inlet.

20. A gas flow diverter as set forth in claim 18, wherein a toxic gas free zone is established in the housing between the flow control element and the second inlet and the second outlet when the flow control element is in the first flow directing position.

21. A method of controlling gas flow comprising the steps of:

dispositioning a flow control element in a first flow control position wherein a first flow path, which by-passes an exhaust gas treatment device, is established and wherein opposed edges of the flow control element juxtapose a first set of seal seats;

introducing air under pressure into interfaces defined between the opposed edges of the flow control element and the pair of seal seats which are disposed in a housing in which the flow control element is pivotally disposed, and establishing first air flows which form a first air curtain arrangement;

rotating the flow control element from the first flow control position to a second flow control position wherein a second flow path, which directs gas flow through the exhaust gas treatment device, is established and wherein the opposed edges of the flow control element juxtapose a second set of seal seats; and

introducing air under pressure into interfaces defined between the opposed edges of the flow control element and the second pair of seal seats establishing second air flows which form a second air curtain arrangement.

22. A method as set forth in claim 21, further comprising establishing a toxic gas free zone in a housing in which the flow control element is disposed by setting the flow control element in the first flow position and using the first flow control element and the first and second air curtain arrangements to exclude gas from a portion of the housing partitioned off by the flow control element.

23. A method as set forth in claim 21, further comprising using a flow control element which has first and second spaced walls and wherein the walls are arranged so that a cross section taken normally to an axis about which the flow control element is disposed is essentially trapezoidal.

24. A method as set forth in claim wherein 21, the first and second sets of seal seats are stepped so as to each have a high ridge and a low ridge and wherein air is introduced between the high and low ridges into the interfaces.